THE DISTRIBUTION OF RED CEDAR IN EASTERN MASSACHUSETTS

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Foresters recognize two main forest associations in southern New England. One of these, the Central Hardwoods association, is characterized by white oak, black oak and hickory. This association originally covered most of Connecticut, Rhode Island and the eastern margin of Massachusetts. The other association, the Transition Hardwoods, characterized by red oak, white ash, sugar maple, red maple and black birch, originally covered most of central Massachusetts and extended north into New Hampshire and Maine.

The plant succession of old fields to oak-hickory stands of the Central Hardwoods type in Connecticut has been described by Lutz[1] as having an initial stage of red cedar and gray birch. Old fields in central Massachusetts commonly come up to white pine which gives way over a long period of time to the Transition Hardwoods. The approximate boundary in eastern Massachusetts between old fields which come up to red cedar and those which come up to white pine was mapped by Raup[2]. He suggested that this was also the boundary between Central Hardwoods and Transition Hardwoods. Naturally this is not a distinct and explicit line, but rather a transition zone.

In an attempt to analyze the boundary described by Raup, a small section of it just west of the Boston area has been mapped in considerable detail. The boundary and the area mapped are indicated in Figure I. Red cedar (*Juniperus virginiana* L. var. *crebra* Fernald & Griscom) is found in old fields south of the boundary, and white pine in old fields north of the boundary. The area mapped is coextensive with the United States Geological Survey quadrangles of Concord, Maynard, Hudson, Natick, Framingham and Marlboro, Massachusetts, and measures seventeen by nineteen miles overall.

The mapping technique consisted of driving back and forth across the area recording the location of old fields containing red cedar or white pine visible from the road. The method has several limitations. First of all, all of the old fields in the area cannot be mapped, and the sampling is bound to be irregular